

Application No. 10/673,200  
Amendment dated December 20, 2007  
After Final Office Action of August 20, 2007

Docket No.: 0941-1876PUS1

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REMARKS

Claims 1-15 remain present in the application.

Rejections under 35 USC 102 and 103

Claims 1-11, 14 and 15 stand rejected 35 USC 102(c) as being anticipated by Hiyama et al., U.S. Patent 7,084,850. This rejection is respectfully traversed.

Claims 12 and 13 stand rejected 35 USC 103 as being unpatentable over Hiyama et al. in view of Kawahara et al., U.S. Publication 2001/0028347. This rejection is respectfully traversed.

The present invention is generally directed to an image detection apparatus for determining an effective number of gray levels of a display while showing motion images, which comprises an image generation means for generating a still image and a moving image, the moving image being a duplication of the still image but with adjustable motion vectors, and for providing an interested display to show the still image and the moving image at the same time, wherein the still image presents the gray level capability of the display while showing still images, and an examination means for using the moving image to determine the effective number of gray levels of the display while showing motion images.

Hiyama discloses an image display system having an image display unit and a control unit for outputting image information to said image display unit. The control unit comprises a block discrimination circuit portion for discriminating a state of said image information amounting to one frame among the image information in a pixel block unit, an image processing portion for processing said pixel block unit including said image information based on a discriminated result of said block discrimination circuit portion, a storage portion for storing said

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image information processed by said image processing portion, and a synchronizing signal generation portion for reading said image information from said storage portion, controlling a clock in accordance with the read image information, and outputting the read image information to said image display unit, wherein said image processing portion processes said pixel block unit such that either each of a plurality of pixel block areas included in said pixel block unit is rewritten for each of a plurality of frames, or each pixel block area remains the same for a plurality of said frames.

It is respectfully submitted that, in Hiyama, the moving picture is not a duplication of the still image. While the smaller resolution and smaller graduation are applied to reduce the data information of the moving pictures, this does not imply that the moving picture is a duplication of the still image.

Further, referring to Fig. 12 and the corresponding description of this figure in the specification (see column 10, line 66 through column 11, line 6), Hiyama describes the broadcasting station 600 as having a moving picture 601 being taken by a TV camera, a still picture 602 being picked up by a digital still camera and CG, for example, in which respective image data are held in the memories 601A and 602A, and a picture 603 composed of the moving picture and still picture produced in accordance with the purpose. The image data is compressed and arranged by the methods of the embodiments 1 to 8. In this example, it is clear that the moving picture 602 is not a duplication of the still image, since the moving picture and the still image are each taken by a completely different apparatus (i.e., the moving picture 601 by a TV camera and the still picture 602 by a digital still camera). Accordingly, it would not be possible for the moving picture to be a duplication of the still image in Hiyama.

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This is unlike the present application. As is seen in Fig. 2b of the present invention, the image generating means generates a still image (205) and its duplicate image (207) with adjustable motion vector (including speed and direction) on the interested screen (200).

Accordingly, in comparing the figures of the present invention and their detailed descriptions with that of Hiyama, it should be clear that these two inventions are not comparable. In Hiyama, the moving picture is taken from a TV camera, so the content thereof (a TV program, for example) differs from the still image, which is taken from a digital still camera. In the present invention, the moving image 207 is a duplicate of the still image 205, and what changes is the position of the moving image 207 on the screen, since it moves with a pre-determined velocity.

Hiyama delivers a high speed transmitted format, and, therefore, uses lower resolution or smaller number of graduation to reduce the data information of the moving picture 601. It is very trivial that the number of gray level is reduced by  $2^N$  if N-bit is dropped. Thus, the gray level reduction has nothing to do with display response time.

The present invention, however, measures or examines the real reductions of the number of graduations caused by inadequate response time of the display. Accordingly, the so-called "real number" of graduations of the display means that the number of graduations can be discriminated visually while the display is showing the moving pictures. The real number of graduations that human eyes see cannot be determined simply by the data-depth, i.e. the bit number of data, but also depends on the response time of the display. To enable the reduction of graduations to depend on response time only, the data-depth of the content in the moving window 207, as shown in Fig. 2b, should be exactly the same as that in the still image window

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205. Then, the present invention can examine the reduction of graduations caused by response time of the display, which does not determine the reduction caused by lower data-depth during compression.

It is therefore respectfully submitted that the prior art utilized by the Examiner fails to teach or suggest at least generating a still image and a moving image, the moving image being a duplication of the still image with adjustable motion vectors, or using the moving image to determine the effective number of gray levels of the display while showing moving images, as is recited in independent claims 1, 6 and 11 of the present application.

In view of the foregoing remarks, it is respectfully submitted that the prior art utilized by the Examiner fails to teach or suggest the apparatus or method of independent claims 1, 6 and 11, as well as their dependent claims. Accordingly, reconsideration and withdrawal of the 35 USC 102 and 103 rejections are respectfully requested.

Conclusion

Favorable reconsideration and an early Notice of Allowance are earnestly solicited.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

Applicants respectfully petition under the provisions of 37 C.F.R. § 1.136(a) and § 1.17 for a one (1) month extension of time in which to respond to the Examiner's Office Action. The fee in the amount of \$120.00 is authorized to be charged to Deposit Account No. 02-2448.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: December 20, 2007

Respectfully submitted,

By 

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